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We hereby recommend that the thesis prepared under

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the Elderly

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A HYPERTENSION TEACHING PROGRAM FOR THE ELDERLY

A THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF MASTER OF SCIENCE

IN THE GRADUATE SCHOOL OF THE

TEXAS WOMAN'S UNIVERSITY

COLLEGE OF NURSING

BY

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CHAPTER 1

INTRODUCTION

The world today is plagued with many acute and chronic health care problems. With the widespread publicity about cancer, heart attacks, and strokes, the general public often does not realize the seriousness and possible implications that other diseases and illnesses may create. Hypertension is such a health care problem. It is prevalent among both sexes, all ages, and races.

Reports estimate that in the United States, 15% of the adult population is hypertensive (Ayers, 1976). Even more alarming are calculations that 87 1/2% of hypertensive Americans have undetected blood pressure elevations or blood pressures which are insufficiently controlled. Among this group, 50% do not realize they have hypertension, 25% are aware of their diagnosis but are not receiving therapy and 12 1/2% have ineffective antihypertensive therapy (National Health Education Committee, 1976). Admittedly, the media has provided some information about the hazards of high

blood pressure, but the public, especially those who are hypertensive, need more knowledge.

In the elderly, hypertension is a significant problem. Among the 24,000,000 hypertensive citizens, 40% of them are over 60 years of age (Ostfeld, 1978). These individuals need information so that they may care for themselves properly, thereby decreasing the risk of additional cardiovascular problems.

Problem of Study

This study investigated the difference between the elderly hypertensive client's initial knowledge about hypertension compared to his knowledge level after attending a planned teaching program about high blood pressure.

Justification of Problem

Currently and in the past, hypertension has been a major health problem of the elderly. The National Health Survey (1977) data from 1971 to 1974 showed that the incidence of hypertension was 40.7% in people who were in the 65-74 year old age range. High blood pressure seems to be the most significant of all the risk factors which predispose strokes. Depending on

the United States geographic location, cardiovascular accidents are twice as high in the 65 to 69 year old age group than in persons 45 to 54 years old (Kuller, Anderson, Peterson, Cassel, Spiers, Curry, Paegel, Saslaw, Sisk, Wilber, Millward, Winkelstein, Lelienfeld, & Seltser, 1970).

Uncontrolled blood pressure elevation predisposes individuals to myocardial infarctions, cardiovascular accidents, congestive heart failure, kidney failure, and eye damage (Mitchell, 1977). Any of these complications may result in immense financial expense, grief, hospitalization, disability, handicap, and often death.

The probability of these complications occurring is decreased when appropriate medical treatment is instituted. Specifically, the individual must seek competent medical care and then strictly follow his specified regimen. Often compliance with professional recommendations is lax. Clients do not closely follow the physician's advice regarding obesity, smoking, tension, stress, and medications because they do not comprehend the seriousness of high blood pressure and its possible complications. Since hypertension is

primarily a symptomless affliction, the individual rationalizes that because he feels good, his blood pressure must be within acceptable limits. Or, he contends that if his blood pressure elevation was harmful, he would have presenting symptoms. Unfortunately, he does not appreciate the gravity of the internal damage to his blood vessels.

Education about hypertension and its treatment is a way to alleviate patient ignorance. It is also a possible way of decreasing patient noncompliance with their treatment method. Caldwell, Cobb, Dowling, and DeJohgh (1970) studied 42 hypertensive patients who developed a hypertensive emergency as a result of discontinuing their high blood pressure medication. Upon questioning, the subjects often gave several reasons for their actions. They discontinued their medications because of the following reasons: (a) they felt good (39%), (b) they had a poor understanding of the medication's purpose (36%), (c) they could not afford the cost (33%), (d) their physician advised them to discontinue (24%), (e) they had poor family support (14%), (f) they were dissatisfied with treatment (10%), (g) they suffered medication side effects (7%), and

(h) they were discouraged (7%) (Caldwell et al., 1970). Inferences from this study are that the involved clients could have profited from a hypertension teaching program. Perhaps if these people had the opportunity to participate in such a program, they would have been more compliant in taking their medications.

Wilber and Barrow (1972) studied an urban middle class population by conducting hypertension screening in shopping centers and on the street. People with elevated blood pressures were instructed either personally, by telephone, or by letter to visit their physician. Wilber and Barrow (1972) discovered that 55% of those told to see their doctor and 49% who received a telephone call never sought medical attention. Of those receiving the letter, 41% did not visit their doctor. Evidently, these people did not attach much significance to their elevated blood pressure. Possibly, they would have been more concerned if they had a better general understanding of high blood pressure.

Admittedly, a thorough understanding of the pathology, complications, and appropriate treatment of high blood pressure will not solve the noncompliance

problem. Johnson (1979) concluded that hypertension knowledge, education, intelligence, or severity of the disease was not related to compliance. Johnson acknowledged, however, that a hypertension teaching program can affect compliance if the instructor is aware of the target population's health beliefs. In this case, a program can be developed which is relevant and significant to the population.

Theoretical Framework

The theoretical framework of this study was based on Rogers' (1969) learning theory. In this theory, Rogers discussed conditions which need to be present if significant learning is to occur. There are many degrees of learning, ranging from the most basic, rote memorization, to the ideal, significant learning. The difference in degree determines whether the information will be forgotten in a week or two, or used and remembered for a lifetime. Undoubtedly, significant learning is the type one hopes to achieve.

According to Rogers (1969), necessary elements for learning include both an emotional and a mental commitment, motivation, and penetration. Significant learning occurs more quickly when the pupil is mentally

and emotionally involved with the topic and has the desire and provocation to learn. If the learner is apathetic, some knowledge acquisiton will result, but at a slower rate. This happens because although teaching originates from an external source, learning is internal. When the learner has true interest and enthusiasm, he will retain the information for a longer period of time, and there will be some degree of change in his behavior or attitudes.

In any teaching situation, the relationship between the teacher and the learner is an important aspect. The more genuine and empathetic the teacher is, the more likely rapport will be developed with the students. Rapport is an essential quality because it facilitates learning which is the purpose of education. Although teachers strive to potentiate learning, there is a limit beyond which they should not delve. Teachers must remember that learning is internal. If a student does not wish to learn, then force and coercion will be of no avail. This will only detract from the other students' opportunities to learn. Teachers can only guide the student, and the student himself is the leader. He is the one to choose if

and what he desires to learn. Instructors must respect this and allow for individualism (Rogers, 1961).

Rogers (1969) has incorporated his beliefs into several principles. Learning is a natural aspect of man's behavior because he has an internal desire to seek information and to achieve. People are selective, however, about what they wish to learn. If the presented material is viewed as threatening or contrary to personal beliefs, the pupil will try to prevent learning. In this case, if significant learning does occur, then the individual has changed, even if just slightly, his attitudes or values. The more relevant the subject is to the learner, the more involved and interested he will be. He desires to learn because some personal benefit will be attained. Whenever significant learning occurs, the learner experiences a new dimension in his feelings, opinions, or behavior.

The quality of learning is increased in situations which are perceived as nonthreatening. That is, the student will learn more if he is studying for the sake of knowledge, as opposed to wanting a good test grade. Self-evaluation is of much more value and importance than any type of grading system. Therefore, each

student must become an active participant in the learning process by analyzing his own progress and development. Through joint teacher-pupil endeavor, learning can be more exciting, enjoyable, and comprehensive (Rogers, 1969).

A relaxed and comfortable climate is more conducive to learning than one which is tense and uneasy. The teacher is the primary contributing factor in classroom atmosphere. It is possible to maintain respect without placing the student in a subservient and patronizing role. When everyone is treated with equal consideration, a more pleasant situation is created which predisposes more learning (Rogers, 1977).

The purpose of the teacher is to facilitate knowledge. This involves being a resource person, clarifying course goals, recognizing and accepting student limitations, and inspiring motivation (Rogers, 1951). Admittedly, this multipurpose role is difficult to fill. Teachers must strive, however, to accomplish these goals because they stimulate learning, which is the ultimate objective.

Rogers' (1969) most important principle was that man's greatest achievement is to learn to change and

to adjust to current conditions and the environment. In today's world, learning is a never-ending process. If man realizes this, he will be able to grow and adapt; if not, he will die.

All of the principles discussed are part of Rogers' (1969) humanistic theory. Rogers (1969) viewed man in a holistic and humanistic manner. Man is regarded as an individual with a unique human nature and a great capacity for personal growth. He achieves personal growth through significant learning. Under proper conditions, man voluntarily strives to learn, to upgrade himself, and to be creative. An important aspect of this learning is freedom of choice. Often for significant learning to take place, man must have a personal commitment to the subject. He must have the internal desire to learn and to achieve. Without this commitment, learning is often a frustration and a disappointment. Frequently this disillusionment spreads to learning in general and man becomes stagnant.

By virtue of their age, the elderly have experienced much change and adjustment during their lives. Knowing that learning is a part of adjustment, elderly persons seem to want to learn and improve their

knowledge base regarding personal health. According to Rogers' (1969) theory, all of the participants should demonstrate concern and active interest in improving their health status in relation to high blood pressure because they all possess the condition.

Assumptions

For the purposes of this study, the following assumptions were made:

1. Elderly persons with hypertension are interested in their health status. They will be self-motivated because they have the condition (Rogers, 1969).

2. Personal interest stimulates the elderly person to learn more easily and more thoroughly (Rogers, 1969).

Hypothesis

For the purposes of this study, the following null hypothesis was developed:

There will be no difference in the pretest and posttest scores for all elderly hypertensive clients following the hypertension teaching program.

Definition of Terms

The terms used in this study were defined as:

1. Elderly hypertensive client--any individual 62 years old or over who has been informed by his physician that he/she has high blood pressure.

2. Hypertension teaching program--a formal instruction program on hypertension consisting of one 30-minute session to be presented by a registered nurse.

Limitations

The limitations of this study were:

1. The sample was composed of voluntary subjects from three high rise apartment complexes designed for the elderly.

2. The variables of marital, educational, and financial status were not controlled.

3. The instrument was researcher developed and non-extensive validity and reliability testing was done.

Summary

Hypertension is an imposing and chronic health care problem of the elderly. Many of the afflicted are

not caring for themselves properly. Some do not realize the importance of following their medical regimen. They are unaware of further risks and complications. Others, consciously try to adhere to treatment but need more information and assistance. Both of these classes of people can benefit from a hypertension teaching program. The purpose of this program was to give information so that the hypertensive individual will be better able to care for himself.

Significant learning requires motivation, personal interest, and a comfortable nonthreatening environment. Under these conditions, the learner has an opportunity to gain substantial information, remember it for a long period of time, and, perhaps, even change attitudes or behavior. The teacher facilitates learning by being a flexible resource person and viewing the learner with respect, courtesy, and an understanding of his limitations (Rogers, 1969).

CHAPTER 2

REVIEW OF LITERATURE

The elderly are susceptible to hypertension and its complications. Since hypertension is a controllable disease, rigorous effort should be applied by health professionals for early detection and effective treatment. As with any disease entity, hypertensive persons often have a poor knowledge base or misconception about their condition. Studies (Hecht, 1974; Marsh & Pearlman, 1972) indicate that a patient's knowledge level about his condition is often related to his adherence to treatment. Therefore, this chapter will review: (a) the incidence of hypertension in the elderly, (b) patient hypertension knowledge levels, (c) the significance of increased patient knowledge levels, and (d) the nurses' role.

Incidence of Hypertension in the Elderly

Of the 24,000,000 Americans today who are hypertensive, 9,600,000 are over 60 years of age. As one ages, the possibility of complications from high blood pressure increases. At age 70, an individual with a

systolic blood pressure of 195 millimeters of mercury has a tripled likelihood of developing cardiovascular disease as opposed to a person with a systolic blood pressure of 100 millimeters of mercury. Contrary to earlier beliefs, blood pressure should not increase with age and elevated systolic readings are just as predictive of coronary heart disease and stroke as diastolic pressures (Ostfeld, 1978).

Elderly hypertensive persons are more likely to have a stroke than cohorts who are normotensive. Ostfeld (1978) studied 3,400 persons in the 65 to 74 years old age range. In the sample, one-half of the subjects were men and the other half women. Also, the group was evenly divided between whites and blacks. It was found that 43% of the subjects were hypertensive. Their blood pressure was 160 or over systolic and 95 or greater diastolic. The incidence of stroke among the hypertensive subjects was determined to be double that of the normotensive subjects. Unfortunately, in individuals over 60 years old, only 1 out of 5 stroke patients has a good recovery (Ostfeld, 1978).

Patient Hypertension Knowledge Levels

In reviewing the available literature, studies were not found which specifically focused on the elderly and their knowledge in relation to hypertension. Instead, the studies examined knowledge levels in adults of all ages. Therefore, the following research refers to the adult hypertensive patient in general.

Finnerty, Matte, and Finnerty (1973) interviewed 60 hypertensive clinic outpatients to determine why they were no longer keeping clinic appointments. A questionnaire was also administered to these individuals to assess their attitudes toward professional relationships, their knowledge about their disease, and their feelings about the financial aspects of their treatment. The questionnaire was composed of 33 questions. The clinics used in the study were located in the inner city and had a 42% patient dropout rate.

The researchers concluded that the patients were not discontinuing clinic appointments because of the financial costs but because of the long waiting times at the clinic and a poor understanding of their condition. Based on the responses to the questionnaire,

it was determined that only 56% of the subjects believed that regular appointments for checkups were necessary. When questioned about the seriousness of hypertension, 95% of the subjects knew that it was more serious than a cold, 44% considered it as serious as diabetes, and 71% felt it was equal to heart disease in severity. Another 13% of the subjects equated its severity with influenza (Finnerty et al., 1973).

Johnson (1979) surveyed hypertensive patients to obtain information in several areas related to high blood pressure and its control. Johnson evaluated patient beliefs about hypertension and its severity, their compliance with medication regimen, and their experience with side effects from their medications. Finally, Johnson (1979) surveyed the patients to determine the regularity of physician-patient discussions about treatment protocols. Some of the information gained in reference to knowledge levels will be presented. In the group, 81% of the subjects realized that hypertension means high blood pressure. The other 19% thought that hypertension meant being overactive or having a type of nervous condition. Many of the participants (72%) believed that they could personally

lower their blood pressure by being serene, relaxed, and unhurried. Subjects (39.5%) reported that they knew when their blood pressure was high. In relation to medications, 77% realized that drug treatment was continuous and lifelong. Communication between physicians and patients regarding status of the condition was poor. When discussing their most recent office visit, 63% of the subjects had erroneous perceptions of their present status or did not even know what their status was. Based on the findings, Johnson (1979) recommended more thorough patient education to correct misconceptions and misinformation. Johnson stated that if patient knowledge levels were increased, then hypertension management would be more successful.

Kirscht and Rosenstock (1977) studied factors which influenced hypertensive patients' adherence to their treatment regimen. Based on personal interviews with 132 patients, they found that knowledge about high blood pressure in general was low. Many patients did not know the condition for which they were being treated. Others (23%) were unsure or had no idea if their medication was for their blood pressure or some other problem. Those subjects who knew

the purpose of their medications were much more compliant in taking them.

In regard to patient education, Kirscht and Rosenstock (1977) concluded that understanding hypertension as a disease entity was not significant to compliance. There was a significant relationship, however, between understanding the purpose of the treatment regimen and adherence to it.

These studies suggest that knowledge levels among hypertensive patients regarding their condition was low. Patients have a right, however, to receive information which is related to their care. The National High Blood Pressure Education Program (cited in Ward, 1978) which was formed in 1972 dealt with hypertensive patients who were aware of their condition yet still uncontrolled as the greatest challenge in high blood pressure management. Consequently, under the direction of Ward (1978), the program is focusing in three main areas. (a) They are educating health professionals so they may improve their approach in the management of hypertension. (b) They are educating the general public and the hypertensive individual. This education should specifically emphasize that hypertension is

a chronic problem with long term continuous treatment. Misconceptions also need to be cleared. (c) New methods of therapy need to be identified and promoted.

Stokes, Payne, and Cooper (1973) also emphasized the importance of patient teaching in hypertension control. Because of its asymptomatic nature, patients need to be aware of the importance of lifelong medical treatment. Patients need to realize that there is no cure, but with adherence to treatment, complications can be significantly reduced.

Griffith and Madero (1973) stated that providing information and support to hypertensive patients assists in patient adjustment and compliance. Patients need to realize that hypertension is chronic. Just because they feel well does not necessarily mean that they are well. Many patients are apprehensive because they fear the risks of strokes, disability, or death. Other patients believe hypertension is the result of nervousness, stress, or emotional tension. They think if they calm down, their high blood pressure will be cured. Most certainly, teaching in these cases is recommended. Teaching in regard to medication is also

important. Some patients may not realize the seriousness of discontinuing their medication or taking it on an irregular basis. Professionals need to talk with patients to determine their beliefs, fears, and knowledge level. Based on this assessment, individualized patient teaching should be provided.

Mitchell (1977) developed a protocol for nurses to use in teaching hypertensive patients. Mitchell contended that every patient needs to understand the meaning of blood pressure, the meaning of hypertension, and what treatment will effectively lower their blood pressure. Mitchell maintained that in order to fully cooperate, patients must understand the condition and what changes will be necessary in their behavior. The patient should actively participate in determining his/her own needs. At the conclusion of teaching, the relationship between the professional nurse and the patients should be continued. This provides the patient with a resource person for the future.

Moser (1977) advocated that hypertension patient education is essential when providing care if the treatment is to be successful. Moser also stressed that continuous reinforcement is necessary during the management program.

Despite its importance, education does not receive the emphasis that it should. According to Podell and Gary (1976) a major problem is that physicians are disease oriented and not education oriented. These authors suggested that doctors tended to overestimate the patient's understanding of instructions and compliance with those instructions. Wilber and Barrow (1972) also reported that physicians are not oriented toward the teaching aspects of patient care. Often patients are not fully instructed regarding their medication schedule and its importance.

Significance of Increased Patient Knowledge Levels

Tagliacozzo and Ima (1970) found a significant relationship between a patient's knowledge level about the disease and clinic attendance. The sample was composed of 159 black clinic outpatients with diagnoses of hypertension, arthritis, diabetes, or cancer. The subjects took tests evaluating their knowledge about causes, symptoms, and complications of the disease. It was discovered that patients with low scores were more likely to discontinue their treatment program prior to their fourth clinic visit. Of all

the patients, the role of knowledge was the most significant in the hypertensive patient. Overall, knowledge about symptoms was higher than knowledge about complications. Tagliacozzo and Ima (1970) concluded that increasing knowledge levels of patients regarding their disease can promote patient motivation in continuing care.

Caldwell et al. (1970) studied the reasons why hypertensive patients drop out of their treatment programs. A control group of patients still continuing treatment was compared to an emergency group of individuals who had discontinued treatment and needed emergency room care as a result. The two groups were analyzed in relation to age, race, education, occupation, income, duration of disease, and other characteristics which differed between the two groups. For the purposes of this study, only the findings on relation to education will be discussed. In regard to education, the researchers agreed that hypertensive patients should be aware of the importance of preventive medicine. Caldwell et al. stated that patients should realize the significance of a normal blood pressure reading and understand ways to promote it through diet

and medication compliance. In the control group, 71% seemed to have a good understanding of their disease and methods of control. On the other hand, 39% of the emergency group discontinued their antihypertensive treatment because they felt good and did not realize the necessity of continuing treatment. In fact, 36% of the emergency group claimed they had never been informed not to discontinue treatment except under medical supervision. Even if the dropouts had received this information, apparently it was not properly emphasized or thoroughly explained. In conclusion, Caldwell et al. (1970) decided education about hypertension was a major area in promoting patient compliance with treatment programs.

Since poor blood pressure control is most often the result of poor patient cooperation or compliance, Inui, Yourtee, and Williamson (1976) decided to explore a method of increasing patient education. This study compared knowledge levels and compliance of patients of physicians who had attended a hypertension tutorial program to patients of doctors who had not. The tutorial program discussed patient lack of understanding regarding hypertension, the importance of education,

and methods of communicating this information. Basically, physicians were reminded of their responsibility as patient educators. The design of the study was quasi-experimental and patients were given a pretest and a posttest. Results indicated that the patients of tutored doctors had a higher knowledge level about medications and dietary restrictions as compared to patients of untutored physicians. Also, it was found that patients of tutored physicians were more compliant in taking medications than patients in the control group.

Eliciting cooperation and compliance of patients is a significant problem in hypertension control. Steckel and Swain (1977) studied the benefits of signing contingency contracts whereby patients agreed to become knowledgeable about hypertension in return for help in completing their insurance forms. The study consisted of 115 hypertensive outpatients who were randomly selected and assigned to one of three groups. Group I received routine care; Group II received routine care plus education; and Group III received routine care, education, and contingency contracting. All subjects were given a pretest to evaluate their

initial knowledge level in relation to hypertension. Out of 30 possible points, the mean score for Group I was 5.9, for Group II it was 10.1, and for Group III the mean score was 8.3. Written information about hypertension was then provided to Group II and Group III and Group III signed the contracts. A post-test was then given and Group II's mean score increased to 14.0 while Group III's mean score increased to 24.3. This study demonstrated that education does improve patient knowledge levels about hypertension, but when education is combined with contracting, it is even more effective.

An unpublished Health Interview Survey (cited in Ward, 1978) conducted in 1974 by the National Center for Health Statistics discovered that almost 30% of the contacted hypertensives reported that they infrequently or never took their blood pressure medication. Drug noncompliance was 33% among the black respondents. After further questioning, 33% stated their doctors advised discontinuing the medication and 28% said they no longer had high blood pressure. These answers suggested patient misunderstanding and poor doctor-patient communication. This data contradicted long

held beliefs that patients discontinued treatment because of the expense or medication side effects. As a result of this new information, the National High Blood Pressure Education Program (cited in Ward, 1978) is concentrating more on professional and patient education.

The Nurses' Role

Bloom (1978) asserted that new methods should be instituted in blood pressure management. Physicians do not need to be personally or directly involved in the management of high blood pressure. Nurses can effectively detect, monitor, and teach hypertensive patients. When and if necessary, they can consult with physicians or refer patients to the physicians.

Kennedy (1975) compared hypertension knowledge levels of patients at physician operated clinics and nurse operated chronic care clinics. Knowledge levels were evaluated in three areas: (a) nature of disease, (b) medication, and (c) diet. A group of 89 subjects from each clinic was selected. Test results indicated that patients from the nurse operated chronic care clinic were better informed than patients at the physician operated clinics. The nurses emphasized teaching

as a major area of care whereas the physicians concentrated more on diagnosis and treatment of disease. Of the 178 total subjects in the sample, 134 had acceptable diastolic blood pressure readings. The nurse managed clinics had almost 60% of these subjects and the doctor operated clinics had 40%. This suggested a relationship between knowledge level and compliance. Some patients at the physician run clinic reported that their doctor gave them information and instructions, but they forgot what the doctor said by the time they got home. Patients at the nurse operated clinic received oral and written instructions so that they had something to refer to at home.

McGann-Gilliland (1979) studied the success of a weekly hypertension clinic run by volunteer nurses which provided hypertensives and nonhypertensives with blood pressure checks, teaching, and counseling. The clinic also sponsored monthly programs for the public regarding blood pressure and hypertension. Individuals who came to the clinic and had elevated blood pressure readings were contacted at intervals of 1, 3, and 12 month periods as follow-up. After a 1-year period of operation, there were 682 hypertensives listed on the

clinic record. At some point in time, 172 patients were out of control. Follow-up by the nurses revealed that after 1 month, 75 individuals were uncontrolled, after 3 months, 62 people were out of control, and after 1 year, only 5 people were still not controlled.*

As part of a research study, Clark and Dunn (1976) had a nurse clinician care for two groups of hypertensive patients. The purpose of the study was to determine whether a nurse could effectively care for patients on potent as well as mild antihypertensive medication. One group was treated with guanithidine sulfate and the other with methyldopa. Both groups of patients were monitored, counseled, and received patient teaching from the nurse clinician. The nurse clinician also adjusted their medication as needed and was able to achieve satisfactory blood pressure control in 20 of the 32 patients. Five patients from the methyldopa group were referred to a physician and even then, two patients still remained uncontrolled. Seven patients from the guanithidine sulfate group were referred to the physician and five of them were able to achieve acceptable blood pressure control. Overall, the nurse

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*Twelve of the 682 hypertensives could not be located for follow-up.

supervised program was successful and a good example of how nurses are able to manage hypertensives under the guidance of a physician.

Milne and Logan (1979) participated in a study comparing the effectiveness of nurses' treatment of hypertensives compared to physicians. The nurses did histories and physicals on their patients, provided patient teaching and adjusted medications according to a protocol designed specifically for the study. Although treatment methods between the two groups differed, patients supervised by the nurses had better blood pressure measurements and higher levels of compliance than patients treated by the physicians. It should be noted, however, that more patients supervised by the nurses were on antihypertensives than the patients of the physicians. The physicians attempted to reduce blood pressure through reduction of risk factors such as obesity or smoking. Since this treatment method was more conservative, blood pressure control would not be as effective when compared to treatment by medications.

Conte, Brandzel, and Whitehead (1974) hypothesized that hypertensive patients who understood their

conditions and treatment regimens would be more compliant and have a lower anxiety level regarding hypertension. At Boston City Hospital Hypertension Clinic, two groups of hypertension patients were formed and patient education was provided. Group discussion was encouraged and utilized. The groups were a supplement to the care the patients were receiving through the clinics. The groups met weekly for 1 hour and 15 minutes. Group I met for 6 weeks and Group II met for 8 weeks. The meetings were taped so that professionals could listen to the meetings again and evaluate the discussion. Before the groups began, all the participants took a pretest to evaluate their hypertension knowledge level. One week after the group terminated a posttest was given. The tests were administered orally and took 30 to 60 minutes. Posttest results indicated that group participants had a better understanding and acceptance of hypertension and their treatment regimen. Participants also reported higher levels of compliance and stated they felt less worried and anxious about being hypertensive.

Alderman and Schoenbaum (1975) studied a hypertension screening and treatment program administered at

Gimbels department store in New York City. Identified hypertensives received laboratory work and a history and physical from a physician. Then the patients were started on appropriate medications if necessary. Afterwards nurses and paraprofessionals saw the individuals on a weekly basis. During these visits, blood pressure readings were taken, risk factors and complications explained, and medication regimens discussed. Written directions and instructions were provided for the patients by the nurses. Acceptance by the patients of the nurses' supervision was good. After blood pressure control was achieved, the appointments were rescheduled and were held every 3 months.

Nurses in a rural county health department in Northwestern Florida initiated a large scale hypertension detection and treatment program. When individuals were identified as hypertensive, a physician began the patient on antihypertensive medication and dietary control. After this initial contact with the physician, the patients were under the nurses' care. The nurses provided instruction, emotional support, and adjusted medication dosages if needed. Since the program ended

prematurely due to lack of funding, detailed analysis was not possible. The nurses were able to survey 100 people who took their medications as prescribed for 1 year. Of these individuals, 99 stated that they felt better than they had in years. Many were doing without other items so that they could afford to buy their medication (Lee, 1974). Attitudes and opinions of the nurses in relation to their expanded role varied. Some fit in well while others objected to adjusting medications and performing other tasks for which they felt unsure (Lee, 1974).

With incentive and determination, nurses are able to find and successfully fill challenging positions. This expanded role not only provides personal fulfillment for the nurse, but also provides a service for the public. Physicians are freed to diagnose and treat acute health problems. The nurse is then able to competently care for patients with chronic health problems.

Summary

Hypertension is a serious health problem among the elderly. When left uncontrolled, it predisposes the individual toward coronary heart disease and

cerebrovascular accidents. The most difficult problem in controlling high blood pressure is promoting patient compliance with treatment regimens. Studies (Finnerty et al., 1973; Johnson, 1979; Kirscht & Rosenstock, 1977) revealed that hypertensive individuals do not understand the significance of their condition or the importance of treatment. Health professionals must provide more thorough patient education.

Increased patient knowledge about hypertension has been related to more regular clinic attendance (Tagliacozzo & Ima, 1970) and improved compliance with medication regimens (Caldwell et al., 1970). Consequently, nurses need to become more actively involved in the detection and education of hypertensive individuals.

CHAPTER 3

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

This was a pre-experimental research study using a one group pretest-posttest design. The purpose of pre-experimental research is to examine differences among conditions before intervention and afterwards (Polit & Hungler, 1978). Subjects were given a pre-test on hypertension to determine their current knowledge level. Then, intervention occurred in the form of a hypertension teaching program. The test on hypertension was readministered as a posttest. Differences among pretest and posttest scores were analyzed. In this research study, the independent variable that was investigated was the hypertension teaching program and the dependent variable was hypertension knowledge level.

Setting

A large metropolitan city in the Southwestern part of the United States was the setting of this research study. Within this city, apartment complexes for older

citizens were selected. The residents of these complexes live in self-contained apartments and are free to come and go at will.

Population and Sample

The population and sample for this study was comprised of all male and female hypertensive individuals 62 years old or over who volunteered to participate. All members of the population were tested. Participation entailed taking the pretest and posttest and attending class. The subjects were able to read, write, and speak English. No restriction on marital, educational, of financial status was imposed. Thirty-nine subjects participated in the subdy.

The type of sampling used was nonprobability--sampling of convenience. Sampling of this nature uses individuals who are easily obtained for participation in the study. A problem with convenience sampling is that the subjects may not be representative of the population. Consequently, research findings cannot be generalized to the population (Polit & Hungler, 1978).

Despite its constraints, sampling of convenience was determined to be the most appropriate for this study.

Since this research study was contingent on the subjects completing a pretest and a posttest, in addition to attending the class session, cooperation was a necessity. Volunteer subjects were most likely to comply with these requests.

Protection of Human Subjects

Texas Woman's University Human Research Review Committee granted written permission for the performance of this study (Appendix A). Permission was also obtained from the graduate school (Appendix B) and the administrators of the three high rise apartment complexes for the elderly granted permission for data collection (Appendix C). All subjects were provided with written and oral explanations (Appendix D) regarding the study's purpose and methodology. The completion and return of Brnicky's Blood Pressure Test was construed as informed consent of the subject to participate in this study. Subjects were requested to write the last four numbers of their Social Security number on the test for coding purposes. Subjects were instructed not to write their names on any part of the test.

Confidentiality of the test results was maintained to protect the subjects from possible embarrassment. Scores were given to subjects who requested their results if the correct last four numbers of the Social Security number were presented. All subjects were aware that they could withdraw from the study at any time without penalty.

Instruments

The tool used for this study was a researcher developed test, Brnicky's Blood Pressure Test (Appendix E) designed to assess the older person's general understanding of hypertension in relation to self-care. Brnicky's Blood Pressure Test was composed of 3 personal information and 17 objective questions. These questions evaluated basic comprehension concerning hypertension, risk factors, complications, diet restrictions, and medications. Specifically, there were four general questions about hypertension, one question regarding risk factors, and one regarding complications. Eight questions pertained to diet and three questions were directed to medications or their side effects. Correct answers to Brnicky's Blood Pressure Test are shown in Appendix F.

Test questions were formulated from available relevant literature which included dietary and nursing textbooks (Department of Nutrition, 1973; Weksler, 1977), pamphlets and brochures (American Heart Association, 1974, 1977, 1981), nursing and medical journal articles (Long, Winslow, Schewhing, & Callahan, 1976; Maloney, 1978; SerVaas & Weinberger, 1979; Ward, Bandy, & Fink, 1978), and materials in test construction (Tinkelman, 1971; Wesman, 1971).

A three member panel of experts was used to evaluate the test content validity. The first expert was an assistant director of nursing at a 200-bed acute care hospital. She has held previous positions in medical surgical units, intensive care and coronary care, emergency room, and as a hospital administrative supervisor. She has a Master's degree in nursing from a major university with cardiovascular nursing as her specialty area with an educational focus. The second expert was an inservice education instructor at a 200-bed acute care hospital. She has the responsibility for general medical surgical area inservice and has full responsibility for the Nurse Internship Program. Previously, this member had worked in pediatric and

neonatal intensive care, intensive care, coronary care with cardiac catherization laboratory work experience, and assistant head nurse of a combination intensive care-coronary care unit. She possesses a Bachelor of Science in nursing from a major university and is presently working on a Master's degree. The third panel member was a unit supervisor of a 40-bed general medical unit. A majority of the patients on this unit are 60 years old and over and many have hypertension as a secondary diagnosis. This nurse has formerly worked in the emergency room, intensive care, and progressive care. She has also served in the capacity of supervisor of a cardiac exercise laboratory. In these areas, she has worked with hypertensive patients in crisis and as a secondary diagnosis. This expert has an Associate degree in nursing and is completing courses for a Bachelor of Science in nursing.

The panel members were asked to evaluate the on the following criteria:

1. Content--did the dimensions of the test reflect the hypertension problem?

2. Relevance--did the material covered seem pertinent to an older person with hypertension?

3. Clarity--were the questions and their distractors clear? Was anything on the test confusing or difficult to understand?

4. Difficulty--was the test too easy or complex?

5. Length--would the test take too long for an older person to complete?

6. Visual appeal--was the test eye pleasing?

Members of the panel felt the test was excellent since it covered numerous aspects of hypertension. They agreed that the material was relevant and the knowledge desirable for an older hypertensive individual. With regard to difficulty, the panel concurred that the test was too difficult for the average person with a minimal education. They expressed concern that the older individual would not possess enough interest and motivation to complete the test and that in this age group, people are not willing to undertake new learning experiences. One panel member suggested numbering the questions to promote more eye appeal and another suggested rewording some of the questions. Conflict of opinion resulted concerning test length. One panel member did not think the test was too long. Another felt the test should be shortened. The third

panel member did not think the test should be shortened because then it would be less comprehensive.

Based on the opinions of the panel, the test questions were numbered and some of the questions rephrased to make them less difficult. At this time, the test was not shortened because the researcher desired to see the results of the pilot study first.

To establish reliability, Brnicky's Blood Pressure Test was administered to a pilot group of 15 people who were thought to possess characteristics similar to those who would actually participate in the study. Attached to Brnicky's Blood Pressure Test was a feedback sheet which allowed the group to offer opinions regarding the length, difficulty, and clarity of the test in addition to any other comments, criticisms, or opinions. Only 2 of the 15 subjects felt the test was too easy and 1 person believed the test was too long. Five people indicated that they did not understand all of the words used in the test. Of these 5 people, three specified that they were unclear in relation to the drugs and their side effects. The time interval used to complete this test ranged from 12 minutes to 45 minutes.

The information provided from the pilot study was used to alter and improve the test. Several difficult questions were removed because they lowered the reliability of the test. Reliability between Part I and Part II of the test was done using equal length Spearman-Brown. The value obtained was 0.523. Of course, equal length Spearman-Brown reliability depends upon how the test is split. The Cronbach's alpha is the maximum Spearman-Brown regardless of the method used to divide test questions. The Cronbach's alpha for this tool was 0.624.

Reliability within Part I as measured by coefficient alpha was 0.710 and within Part II it was 0.338. The reliability on Part I was expected to be high since these questions pertain to risk factors and complications of high blood pressure. Due to publicity by the news media, the general public has exposure to this information. On the other hand, reliability on Part II was low because this section primarily relates to diet and medications. This information is less readily available to the general public. Consequently, the subjects in the pilot group were more prone to guess at the right answer which

causes inconsistency in the responses. This leads to a lower reliability.

Data Collection

The administrators of the apartment complexes for older persons were contacted and the steps of data collection were explained. These steps were: (a) to obtain the pretest scores of elderly hypertensive subjects using Brnicky's Blood Pressure Test, (b) to present a planned teaching program (Brnicky's Blood Pressure Program) approximately 30 minutes in length to the elderly hypertensive subjects, and (c) to obtain posttest scores of elderly hypertensive subjects using Brnicky's Blood Pressure Test after a 1-week period had elapsed following presentation of Brnicky's Blood Pressure Program. After this explanation, permission was obtained for use of the agency.

After receiving agency permission, residents were contacted individually through door-to-door flyers distributed for the purpose of informing them of the study. Also, posters were displayed in the main lobby along with flyers to publicize the program. These advertisements notified the residents that a teaching program on hypertension was to be presented free as part of a

research study. When the individuals arrived on the scheduled date and time for the hypertension teaching program, information on the methodology of this study was provided. The pertinent written information was provided for the subjects to read silently as the researcher read it to them aloud. Following the written and oral explanation of the study's methodology, subjects were requested to stay if they would like to participate in the study or to leave the room if they preferred not to participate. Time was allowed for people to leave the room. Those people remaining in the room became the subjects of the study and were given a pretest (Brnicky's Blood Pressure Test) to read and to answer. The purpose of this test was to evaluate the older person's general understanding of hypertension in relation to self-care.

When subjects completed and returned the test, this was construed as informed consent for participation in the study. After all of the tests were returned, Brnicky's Blood Pressure Program was presented. Following the program, subjects were given the opportunity to have their blood pressure measured and recorded for them as an incentive for attendance.

Subjects were asked to return 1 week later to take Brnicky's Blood Pressure Test as the posttest. Once again, blood pressure was measured and recorded so that the reading could be compared to the first measurement. This second reading helped to assure that the individual's blood pressure was within normal limits as defined by the World Health Organization (cited in Snider, 1976). Any individual with a blood pressure reading higher than 160/95 was informed to contact his physician.

Treatment of Data

On Brnicky's Blood Pressure Test, subjects were requested to write their age and if they had high blood pressure. This information was requested so that the researcher could verify that the individual met the qualifications for participation in the study. To qualify, individuals had to be 62 years old or over and be hypertensive. The mean and standard deviation was used to characterize the subject's age.

The paired *t*-test was applied to the hypothesis. Researchers use this test when measures are obtained from the same subjects (Polit & Hungler, 1978). In this hypothesis, the focus was on the change in

knowledge level before and after the hypertension teaching program. For purposes of this study, the level of significance was set at $p = .05$.

CHAPTER 4

ANALYSIS OF DATA

This study was conducted to determine the change in the elderly hypertensive client's initial knowledge about hypertension as compared to the knowledge level after attending a planned teaching program. Each subject's knowledge level was evaluated before and after the teaching program utilizing a researcher developed test. This chapter presents a description of the sample and an analysis of the data obtained.

Description of Sample

The total sample consisted of 39 hypertensive individuals who completed a pretest, attended the planned teaching program, and returned again 1 week later for the posttest. All of the subjects were residents at one of the three high rise apartment complexes utilized in the study. They were able to read, write, speak English, and complete the test unassisted. The ages of the subjects ranged from 62 to 90 years. The mean age was 76.5 years and the

standard deviation was 6.6 years. Table 1 displays the age distribution of the subjects.

Table 1

Sample Distribution by Age

Age Range	Number of Subjects	Percentage of Total
62-65 years	2	5.1
66-70 years	7	17.9
71-75 years	9	23.9
76-80 years	9	23.1
81-85 years	10	25.7
86-90 years	2	5.1

n = 39.

Findings

The highest possible score on the pretest-posttest questionnaire was 36 points. The scores were tabulated according to the number of correct answers. Therefore, the higher an individual's score, the greater his knowledge level about hypertension. No one obtained a perfect score on the pretest or the posttest. Twenty-eight of the subjects showed an improvement in score

after the teaching program, while eight subjects received a lower score on the posttest than they had on the pretest. Three individuals had no change in their pretest-posttest score. The raw scores for both the pretest and the posttest are shown in Appendix G.

The null hypothesis which stated that there would be no difference in pretest and posttest scores for all elderly hypertensive clients following the hypertension teaching program was tested with a paired *t*-test. The *t* value was equal to 4.63 and the *p* value was less than 0.001. By this analysis, the null hypothesis was rejected. A significant difference was found between the pretest and posttest scores. The group's test score improved an average of 2.85 items. Table 2 provides the summary statistics for the pretest and posttest scores.

Summary of Findings

Thirty-nine hypertensive subjects 62 years old or over completed the requirements for participation in this study. The statistical analysis led to the rejection of the null hypothesis at less than 0.01 level of significance. There was a change in pretest

Table 2

Summary Statistics for Pretest and Posttest Scores

Item	Mean	Standard Deviation	Range
Pretest	23.07	5.86	11-35
Posttest	25.92	5.92	13-34
Difference	2.85		

n = 39.

and posttest scores as a result of the hypertension teaching program. The group's test score increased an average of 2.85 points.

CHAPTER 5

SUMMARY OF THE STUDY

This research study evaluated the effectiveness of a hypertension teaching program for elderly hypertensive individuals. This chapter summarizes the study and discusses conclusions and implications, and recommendations for further study.

Summary

The problem of this pre-experimental study was to determine the difference in the elderly hypertensive client's initial knowledge about hypertension compared to his knowledge level after attending Brnicky's Blood Pressure Program. The theoretical framework was based on Rogers' (1969) learning theory. Elderly hypertensive clients should desire to learn about hypertension and improve their self-care because they have the condition. They should have a personal interest in the subject material.

Subjects for the study were obtained by convenience sampling at three high rise apartment complexes for the elderly. The location was a large metropolitan city in

the Southwestern part of the United States. All members of the population were tested. Thirty-nine subjects participated in the study.

A one group pretest-posttest design was used. After being provided with an oral and written explanation of the study, subjects completed the researcher developed blood pressure test. Completion and return of Brnicky's Blood Pressure Test was construed as informed consent to participate in the study. A 30-minute program on high blood pressure was then presented. One week later the subjects returned to take the post-test.

Brnicky's Blood Pressure Test was a researcher developed test which assessed the older person's general understanding of high blood pressure in relation to self-care. Questions evaluated basic comprehension of hypertension, risk factors, complications, diet restrictions, and medications. The highest possible score that could be obtained on the test was 36 points.

The test was designed with the use of dietary and nursing textbooks (Department of Nutrition, 1973; Weksler, 1977), pamphlets and brochures (American Heart Association, 1974, 1977, 1981), nursing and medical

journal articles (Long et al., 1976; Maloney, 1978; SerVas & Weinberger, 1979; Ward et al., 1978), and materials in test construction (Tinkelman, 1971; Wesman, 1971). A three-member panel of experts was used to evaluate test content validity and based on their opinions, some test revisions were made. The test was then administered to a pilot group of 15 elderly individuals. The pilot group took the test and then provided comments and criticisms on an attached feedback sheet. Once again the test was revised and a Cronbach's alpha of 0.624 was obtained.

After data collection was completed, the null hypothesis was tested using the paired *t* test and it was rejected. A significant difference was found between the pretest and posttest scores.

Discussion of Findings

The findings of this research study indicate that patient knowledge levels about hypertension can be increased by the presentation of a teaching program. Conte et al. (1974) and Inui et al. (1976) also reported similar results. Hypertensive patients who received teaching about their condition possessed a better understanding and an increased knowledge level

about high blood pressure. These results are even more significant when they are linked with other studies. For example, Kirscht and Rosenstock (1977) determined that the more knowledgeable hypertensive patients were about their medication's purposes, the more compliant they were in taking the medication. Similarly, Tagliacozzo and Ima (1970) found that the more a patient knew about his disease, the more likely he would be to keep clinic appointments. These studies indicate that patient teaching is not only beneficial for patient concerns and curiosity, but also for treatment compliance.

The hypertension teaching program in this study was developed and presented by a registered nurse. Since test scores improved an average of 2.85 points after program attendance, indications are that learning occurred. Therefore, this study supports other research such as Kennedy (1975) who found that nurses are very effective in patient teaching. In fact, Kennedy concluded that nurses are better patient educators than physicians because patients under the care of nurses have higher knowledge levels than physician cared for patients. Nurses are able to assess patient learning needs and provide the necessary pertinent information.

Conclusions and Implications

The following conclusions may be drawn based on the findings of this study:

1. Elderly hypertensive clients do not possess an adequate understanding of their condition.

2. Given the opportunity, elderly hypertensive clients will voluntarily attend a teaching program.

3. Elderly hypertensive clients are able to learn about hypertension by attending a teaching program.

4. Brnicky's Blood Pressure Program is a useful program for patient teaching.

5. The learning capabilities of the elderly hypertensive persons are influenced by their age and past experiences.

6. None of the subjects were able to remember all of the information which was presented in the program.

The value of patient education in relation to increasing knowledge level has been explored. Several implications may be derived from this study. First, the elderly desire to learn and are able to learn. Their need for health education must be recognized

and opportunities provided. Every individual has the right to be informed about his personal health and related treatment.

Second, the nurse must be aware of her role as a patient educator. During every encounter with patients, there is an opportunity for teaching. Nurses should improve their assessment of patient learning needs. Informal individualized teaching may be more beneficial to a patient than a planned group program. The elderly are often neglected in regard to education. Special efforts should be made to include them in learning situations and to provide any additional time or explanations which might be needed.

Finally, although nursing programs provide information about hypertension and patient teaching these subjects need additional emphasis. Hypertension is a major chronic health problem in the United States and the major difficulty in treatment is lack of patient cooperation with medical regimens. Patient teaching is an important aspect of nursing which needs to be stressed both in undergraduate and graduate nursing programs.

Recommendations for Further Study

Based on the results of this study, the following recommendations are suggested:

1. The study should be repeated with a longer time interval between the planned teaching program and the administration of the posttest.

2. This study should be replicated using a larger sample and utilizing the experimental design with random sampling. This would strengthen the results of the study.

3. Demographic data should include the subject's educational status so that program effectiveness with people of varying educational backgrounds could be determined.

4. A follow-up study should be conducted to determine the effect of patient education on patient compliance with treatment regimens.

APPENDIX A

TEXAS WOMAN'S UNIVERSITY
Box 23717, TWU Station
Denton, Texas 76204

1810 Inwood Road
Dallas Inwood Campus

HUMAN SUBJECTS REVIEW COMMITTEE

Name of Investigator: Alice B. Brnicky Center: Dallas

Address: Rt. 2, 105 Ash Bend Drive Date: 8/4/81

Rockwall, Texas 75087

Dear Ms. Brnicky:

Your study entitled A Hypertension Teaching Program for the Elderly

has been reviewed by a committee of the Human Subjects Review Committee and it appears to meet our requirements in regard to protection of the individual's rights.

Please be reminded that both the University and the Department of Health, Education, and Welfare regulations typically require that signatures indicating informed consent be obtained from all human subjects in your studies. These are to be filed with the Human Subjects Review Committee. Any exception to this requirement is noted below. Furthermore, according to DHEW regulations, another review by the Committee is required if your project changes.

Any special provisions pertaining to your study are noted below:

____ Add to informed consent form: No medical service or compensation is provided to subjects by the University as a result of injury from participation in research.

____ Add to informed consent form: I UNDERSTAND THAT THE RETURN OF MY QUESTIONNAIRE CONSTITUTES MY INFORMED CONSENT TO ACT AS A SUBJECT IN THIS RESEARCH.

____The filing of signatures of subjects with the Human Subjects Review Committee is not required.

____Other:

__x__No special provisions apply.

Sincerely,

Estelle D. Kurtz

Chairman, Human Subjects
Review Committee

at Dallas

PK/smu/3/7/80

APPENDIX B

TEXAS WOMAN'S UNIVERSITY

DENTON, TEXAS 76204

THE GRADUATE SCHOOL

October 1, 1981

Mrs. Alice Brnicky
105 Ash Bend Drive
Route 2
Bockwall, Texas 75087

Dear Mrs. Brnicky:

I have received and approved the Prospectus for your research project. Best wishes to you in the research and writing of your project.

Sincerely yours,

Robert S. Pawlowski
Provost

RP:dl

cc Ms. Susan Goad
Dr. Anne Gudmundsen
Graduate Office

APPENDIX C

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE Tyler Street Manor

GRANTS TO Alice B Brnicky
a student enrolled in a program of nursing leading to a Master's Degree at Texas Woman's University, the privilege of its facilities in order to study the following problem.

A Hypertension Teaching Program for the Elderly

The conditions mutually agreed upon are as follows:

1. The agency (may) (may not) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (may not) be identified in the final report.
3. The agency (wants) (does not want) a conference with the student when the report is completed.
4. The agency is (willing) (unwilling) to allow the completed report to be circulated through interlibrary loan.
5. Other _____

Date: 8-15-81 Ralph E. [illegible]
Signature of Agency Personnel

Alice B Brnicky
Signature of Student

Susan Boad
Signature of Faculty Advisor

*Fill out & sign three copies to be distributed as follows: Original - Student; First copy - Agency; Second copy - TWU College of Nursing.

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE Dallas Housing Authority, Forest Green Manor

GRANTS TO Alice B Brnicky
a student enrolled in a program of nursing leading to a Master's Degree at Texas Woman's University, the privilege of its facilities in order to study the following problem.

A Hypertension Teaching Program for the Elderly

The conditions mutually agreed upon are as follows:

1. The agency (may) (may not) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (may not) be identified in the final report.
3. The agency (wants) (does not want) a conference with the student when the report is completed.
4. The agency is (willing) (unwilling) to allow the completed report to be circulated through interlibrary loan.
5. Other _____

Date: 8/17/81

Helen M. Robinson
Signature of Agency Personnel

Alice B Brnicky
Signature of Student

Susan Gard
Signature of Faculty Advisor

*Fill out & sign three copies to be distributed as follows: Original - Student; First copy - Agency; Second copy - TWU College of Nursing.

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE Dallas Housing Authority, Lakeland Manor

GRANTS TO Alice B Brnicky
a student enrolled in a program of nursing leading to a Master's Degree at Texas Woman's University, the privilege of its facilities in order to study the following problem.

A Hypertension Teaching Program for the Elderly

The conditions mutually agreed upon are as follows:

1. The agency (may) (may not) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (may not) be identified in the final report.
3. The agency (wants) (does not want) a conference with the student when the report is completed.
4. The agency is (willing) (unwilling) to allow the completed report to be circulated through interlibrary loan.
5. Other _____

Date: 8/17/81

Helen M. Robinson
Signature of Agency Personnel

Alice B Brnicky
Signature of Student

Susan Good
Signature of Faculty Advisor

*Fill out & sign three copies to be distributed as follows: Original - Student; First copy - Agency; Second copy - TWU College of Nursing.

APPENDIX D

Oral and Written Explanation of the Study

My name is Alice Brnicky and I am a graduate nursing student at Texas Woman's University. I am writing a thesis as a partial requirement for graduation and would appreciate your voluntary participation.

This is a study which will evaluate your current knowledge about high blood pressure and compare it to your knowledge after attending a teaching program on high blood pressure. You have the right to decide if you would like to participate. I will now explain what would be expected of you if you do agree to participate.

First, you will be asked to provide information about your age and whether you have high blood pressure. I do not want you to write your name on the test. Your name will not be connected with the test or any personal information you give. Instead, please write the last four numbers of your Social Security number. This will be used instead of your name for identification purposes.

Next, you will be asked to complete a short multiple choice test on high blood pressure. You are not expected to know all of the answers. Please circle the answers you think are right. You will have as much time as you

need to finish the test, but it is estimated that the test will take about 15-20 minutes. When all of the tests are turned in, I will present a program on high blood pressure about 30 minutes in length. If anyone would like their blood pressure taken at that time, I will take it and record it for them.

I'd like you to come again next week at the same time to take the same test again on high blood pressure. This way I can evaluate any changes and see how helpful the teaching program was. I will also take your blood pressure again if you wish.

If you decide to participate, the benefits to you are:

1. You will understand more about high blood pressure and know how to better care for yourself.

2. You will have the option of having your blood pressure measured and recorded on two different occasions. If your blood pressure measures too high, I will notify you and give the information for your doctor.

If you decide to participate, the discomforts to you may be:

1. The personal time involved for participation in the study. Each session will last about 45 minutes.

So, the total time involved will be approximately 1 1/2 hours. If you get tired, you may rest anytime during the test or program.

If you decide to participate, the risks to you may be:

1. Public embarrassment if someone is able to discover what your test score is. However, I will control for this by not asking you to put your names on the test.

At any time you may ask questions either about high blood pressure or about the study. Also, at any time during the study you are free to change your mind and withdraw. No medical service or compensation is provided to you by the University as a result of injury from participation in this research. Those of you who would rather not participate in the study may now leave the room. Those of you remaining will be given the blood pressure test and teaching program.

Thank you for your participation.

APPENDIX E

BRNICKY'S TEACHING PROGRAM

The purpose of this program is to provide you with additional knowledge concerning high blood pressure. I hope that when you understand more about high blood pressure you will more carefully follow the treatment program of medications and diet which your doctor has ordered for you.

I have chosen to talk about high blood pressure because it is a serious health problem in the United States today. One out of every four adults has some blood pressure elevation (American Heart Association, 1981). Any one of us here could get high blood pressure. It occurs in children and adults, men and women, whites and nonwhites. Of course, some people have a greater risk of getting high blood pressure than others. There are risk factors which can predispose a person toward high blood pressure. The more risk factors one has, the greater the chance of getting high blood pressure. Some of these risk factors cannot be changed, and others can be corrected. Obviously, one's goal should be to decrease the number of risk factors so that the likelihood of developing high blood pressure is reduced (American Heart Association, 1981).

The risk factors associated with high blood pressure which cannot be changed are: (a) heredity--heart problems and high blood pressure run in families. One can inherit the tendency to develop high blood pressure (American Heart Association, 1981); (b) race--the incidence of high blood pressure is 50% higher in blacks than in whites (American Heart Association, 1981).

Now I am going to talk about the risk factors which you can control. First there is cigarette smoking. When you smoke, your heart beats faster and your blood pressure tends to rise. So, if possible, it is a good idea not to smoke whether you have high blood pressure or not. If you already have high blood pressure, it is even worse for you to smoke. One study has shown that people who have high blood pressure and who smoke are 16 times more likely to have a stroke than people who have high blood pressure but do not smoke (Snider, 1976). If you absolutely cannot stop smoking, at least choose a cigarette with less tar and nicotine. Smoke only half of the cigarette and don't puff on it as much as usual.

The next risk factor is diabetes. This is associated with increased tendency toward hypertension. If you are diabetic, you can decrease your chance of

developing high blood pressure by taking your diabetic medication as ordered, following your diet, and watching your weight (Snider, 1976).

Being overweight is another factor which increases your likelihood of developing high blood pressure. About 40% of obese people have high blood pressure. Obesity means there is extra tissue present to which blood vessels have to supply nutrients. These extra blood vessels put more strain on the heart. Occasionally, just by going back to a normal weight, the obese person may lower his blood pressure (Snider, 1976).

A fourth risk factor is high cholesterol level. Too much cholesterol in the body can result in cholesterol building up on the walls of the arteries. This narrows the arteries which makes it more difficult for blood to flow. This can raise one's blood pressure. A simple blood test can be done to measure the amount of cholesterol in your body. If your cholesterol level is too high, you may be placed on a diet which is low in saturated fat and cholesterol (American Heart Association, 1981).

Stress is another risk factor which may adversely affect your blood pressure. Too much emotional stress

and tension will not cause high blood pressure, but it can aggravate it. Learn to recognize the signs and symptoms which indicate that you are under stress. For example, irritability, difficulty sleeping, or biting one's nails are all indicators of stress. Not only should you recognize the problem, you need to correct it (Snider, 1976).

High blood pressure has been called "The Silent Disease." This is because you may have high blood pressure and not even know it. In fact, in most people, high blood pressure does not produce any symptoms. So, you could have high blood pressure for a number of years and never know it because you feel fine. Just because you don't know about it and you feel good does not mean that everything is o.k. Damage is occurring internally in your blood vessels. If allowed to continue indefinitely, severe and permanent damage can be done to your heart, your kidneys, and your eyes. This is because your arteries which circulate the blood in your body become hard and less elastic. When this happens, your organs do not get as much blood as they need. Also, if a clot lodged in one of your arteries that was already hard and less elastic than it should be, an organ might not get

any blood at all. You could develop kidney failure, congestive heart failure, have a heart attack, or a stroke (American Heart Association, 1974). You could even die.

Is there something you can do about it? Yes!!! Have your blood pressure checked according to your doctor's instructions. Just because you feel good, don't skip your routine physical examination, have your blood pressure taken. Also, whenever blood pressure screening is being done nearby, stop and have your blood pressure checked. It will only take a few minutes of your time. When your blood pressure is taken, you'll be told if your blood pressure is within normal limits or if you should see your doctor. If you are referred to your doctor, do see him for further evaluation. If the doctor tells you that your blood pressure is high, don't be alarmed. Remember, high blood pressure is a lifelong but a controllable disease. Not only see your doctor, but follow the instructions. Diet if the doctor tells you to and use less salt. If you are put on medication, then take it. Sure, it may be a hassle, but aren't you worth it? Take care of yourself!! Unbelievable as it may seem, the main problem in controlling high blood pressure is

getting the patient to follow the doctor's instructions (Kirscht & Rosenstock, 1977). High blood pressure isn't going to disappear if you ignore it. It is a lifelong condition, so the treatment is for a lifetime too. Some poeple mistakenly believe that after they've followed the treatment plan for a while and their blood pressure is within normal limits, then they can stop because their blood pressure is o.k. They can stop, but their blood pressure will go right back up again and they will be back at the beginning. Remember, high blood pressure is a lifelong condition with lifelong treatment. There is no cure.

All of us have a blood pressure; it is recorded as one number over another, for example 140/80. The number doesn't always stay the same. It changes depending on whether you are happy, sad, angry, crying, or sleeping. It varies according to what activity you are doing. It goes up during exertion but it will go back down to its normal range when you relax again (American Heart Association, 1974).

Blood pressure measures the force of the blood against the walls of the arteries as the heart is pumping. (The arteries are blood vessels in the body which

carry the blood from the heart to all parts of the body). Artery walls are elastic, they expand when the heart beats and pushes a lot of blood through them and they contract when the heart is in-between beats and less blood is flowing through them. This is why blood pressure is recorded as two numbers. The top number 140 measures how hard the heart beats to pump blood through the arteries. The bottom number 80 is the pressure the blood puts on the arteries as it is flowing, when the heart is in-between beats. The more difficult it is for the heart to pump blood through the artery, the higher the top number will be. The more difficult it is for the blood to flow through the arteries, the higher the bottom number (American Heart Association, 1977).

Blood pressure varies from person to person and there is a wide range of normal blood pressure. What is normal for you may be abnormal for me. The World Health Organization states that if your blood pressure is consistently higher than 160/95 at any age, this is potentially dangerous (Snider, 1976). Of course, your blood pressure may be lower than this and still may be too high for you. Blood pressure is an individual measurement. This is why it is important to have regular checkups with your doctor so he can decide what is normal for you.

What causes high blood pressure?

When the arteries become less elastic, more narrow and hard, it is more difficult for the heart to pump blood through them. This difficulty results in the blood pressure rising. The blood pressure becomes higher than it should be. In 90% of patients, the cause of high blood pressure is not known. This type of high blood pressure is called essential hypertension. If a cause can be identified such as kidney disease or a tumor, this is another type of high blood pressure called secondary hypertention (American Heart Association, 1977). In this program we will only discuss essential hypertension since it is the more common of the two.

If you go to the doctor and your blood pressure reading is high, the doctor may not begin treatment immediately. As I've said, blood pressure changes. Your doctor may have you come back 1 or 2 more times to take your blood pressure again before he begins treatment. The purpose is to check to see if your blood pressure is chronically high or if the high reading he got is an isolated incident. For example, you may have been very nervous so your blood pressure went up. Once he decides that you have hypertension, he will begin

treatment. Some people may only have to lose weight and reduce their salt intake in order to keep their blood pressure within normal limits. Obese people need more blood vessels in their body to supply the extra tissue with blood. Consequently, the heart must work harder. Likewise, a high salt intake is not healthy because salt retains water in the body. This increases the fluid volume for the heart to pump and causes more strain (Snider, 1976).

Most people salt their food too much. Some people salt their food before even tasting it. If you are watching your salt intake, you should never add salt to your food while cooking it or when eating it. Milk and dairy products are also high in salt content so limit your intake of these. Baking soda is very high in salt. Canned foods which you buy in the store are also high in salt. Some examples of high salt foods are: bouillon, canned vegetables, canned soups, hot dogs, lunch meats, sauerkraut, bacon, catsup, pickles, and potato chips and pretzels. You should try to buy fresh fruits and vegetables instead of canned items (Department of Nutrition, 1973).

Do not expect your blood pressure to drop overnight because you are watching your diet. It takes 4-6 weeks of

careful dieting for your salt reduction to affect your blood pressure (Robinson, 1972). If this method of treatment is not successful, there are medications available to control high blood pressure. No one medication is effective for everyone. So, your doctor may have to try several before he finds the one which works best for you. You may even have to take more than one kind of medication.

There are three general categories of blood pressure medications. The first are the diuretics. These medications are used in more than 1 out of every 3 patients who have mild or moderately high blood pressure. These medications work by eliminating extra fluid from the body's tissues. An undesirable side effect of diuretics is that they also excrete potassium from the body. So, people who are on diuretics have to take a potassium supplement. Or, they may be told to eat foods which are high in potassium such as: bananas, oranges, grapefruit, broccoli, or celery. The other two categories of blood pressure medications either relax the blood vessels or block nerves to the blood vessels (Snider, 1976).

Once you are put on medication, you need to take it as ordered. Hypertension is a lifelong disease but it can be controlled. Follow the instructions which your

doctor gives you. If for some reason you are having trouble following the instructions or don't understand them, ask questions. Your doctor or the nurse will be glad to explain them with you.

COMPLETION AND RETURN OF THIS TEST WILL BE CONSTRUED AS INFORMED CONSENT

BRNICKY'S BLOOD PRESSURE TEST

PLEASE ANSWER THE FOLLOWING QUESTIONS:

1. Age:

2. Last four numbers of your Social Security number:

3. Has your doctor ever told you that you have high blood pressure?

4. CIRCLE THE ONE STATEMENT WHICH IS TRUE:

   A. High blood pressure is a chronic and uncontrollable disease.

   B. High blood pressure is a serious disease which can be cured.

   C. High blood pressure is a short-term disease which produces many symptoms.

   D. High blood pressure is a life-long but controllable disease.

5. CIRCLE THE ONE STATEMENT WHICH IS TRUE ABOUT HIGH BLOOD PRESSURE.

   A. The higher a person's blood pressure, the more symptoms he will have.

   B. Common symptoms of high blood pressure are: frequent headaches and nosebleeds, fatigue, dizziness, and shortness of breath.

   C. In the majority of cases, high blood pressure is a symptomless disease.

COMPLETION AND RETURN OF THIS TEST WILL BE CONSTRUED AS INFORMED CONSENT

6. CIRCLE THE ITEMS BELOW WHICH CONTRIBUTE TO HIGH BLOOD PRESSURE (More than one answer is correct)

A. Smoking

B. Frequent kidney infections

C. Cancer

D. Diabetes

E. High cholesterol level

F. Good physical fitness

G. Obesity

H. A low salt diet

I. Arthritis

J. Family history of heart problems

K. Regular exercise

L. Rheumatism

M. A competitive and nervous personality

COMPLETION AND RETURN OF THIS TEST WILL BE CONSTRUED AS INFORMED CONSENT

7. CIRCLE THE COMPLICATIONS THAT HIGH BLOOD PRESSURE CAN CAUSE. (More than one answer is correct)

   A. Cancer

   B. Stroke

   C. Diabetes

   D. Heart attack

   E. Seizures

   F. Congestive heart failure

   G. Ulcers

   H. Hearing loss

   I. Kidney failure

8. CIRCLE THE ONE STATEMENT WHICH IS TRUE.

   A. People who have a normal blood pressure will not have a stroke or a heart attack during their life.

   B. Blood pressure varies when you are awake or asleep, angry, or calm.

   C. Everyone with high blood pressure will someday have a stroke or a heart attack.

   D. Nervous and irritable people have high blood pressure, while calm and pleasant people have a normal or a low blood pressure.

COMPLETION AND RETURN OF THIS TEST WILL BE CONSTRUED AS INFORMED CONSENT

9. FREQUENTLY, HIGH BLOOD PRESSURE CAN BE CONTROLLED BY DIET. HOW LONG WOULD A LOW SALT DIET NEED TO BE STRICTLY FOLLOWED BEFORE AN IMPROVEMENT IN BLOOD PRESSURE WOULD BE SEEN? CIRCLE THE ONE CORRECT ANSWER.

   A. 1-2 days

   B. 1 week

   C. 2-3 weeks

   D. 4-6 weeks

   E. 8-10 weeks

10. CIRCLE ONE ANSWER ONLY.
THE PURPOSE OF A LOW SALT DIET IS TO:

   A. Control the amount of cholesterol, fat, and calories that a person eats.

   B. Control the amount of salt in the body tissues that aids in the loss of water from the body.

   C. Reduce the amount of carbohydrates, protein, and fat that a person eats.

   D. Regulate the balance of other vitamins and minerals in the body.

COMPLETION AND RETURN OF THIS TEST WILL BE CONSTRUED AS INFORMED CONSENT

IN EACH OF THE CATEGORIES BELOW, CIRCLE THE ONE FOOD THAT WOULD NEED TO BE RESTRICTED ON A MILD SALT RESTRICTED DIET. ASSUME THAT THE COOKED FOODS WOULD BE PREPARED WITHOUT SALT.

11.

A. Canned Soup
B. Rice
C. Apples
D. Honey
E. Oranges

12.

A. Cottage Cheese
B. Bananas
C. Hot dogs
D. Onions
E. Cauliflower

13.

A. Carrots
B. Broccoli
C. Lettuce
D. Cabbage
E. Sauerkraut

14.

A. Vinegar
B. Lemon juice
C. Catsup
D. Herbs
E. Pure maple syrup

15. CIRCLE THE ONE CORRECT ANSWER.
WHEN A PERSON TAKES HIGH BLOOD PRESSURE MEDICATION PRESCRIBED BY HIS DOCTOR, HE USUALLY TAKES IT FOR:

A. 1-2 months
B. 1 year
C. 6 months
D. the rest of his life

COMPLETION AND RETURN OF THIS TEST WILL BE CONSTRUED AS INFORMED CONSENT

16. CIRCLE ONE ANSWER ONLY.
DIURETICS (WATER PILLS) LIKE DIURIL, HYDRODIURIL, AND LASIX HELP CONTROL BLOOD PRESSURE BECAUSE THEY:

A. Allow the body to keep extra water which dilutes the salt concentration in the body.

B. Cause the body to get rid of excess salt and water which in turn reduces the blood volume.

C. Allow the body to keep extra water if the body needs it, or get rid of the water if it is not needed.

D. Help the heart beat more effectively.

17. CIRCLE ONE ANSWER ONLY.
DIURETICS (WATER PILLS FOR HIGH BLOOD PRESSURE) HAVE A TENDENCY TO DECREASE THE BODY'S SUPPLY OF WHAT MINERAL?

A. Calcium

B. Chloride

C. Iron

D. Potassium

COMPLETION AND RETURN OF THIS TEST WILL BE CONSTRUED AS INFORMED CONSENT

18. CIRCLE THE ONE CORRECT ANSWER.
A MAJOR AND COMMON PROBLEM IN CONTROLLING HYPERTENSION IS THAT:

A. Often doctors do not know the cause of a person's high blood pressure and so they can't control it.

B. There are not enough effective medications to control high blood pressure available.

C. After diagnosis, many patients do not cooperate and adhere to their treatment plan.

D. Despite the wide variety of medications to control high blood pressure, it is still difficult to match the right drug and proper dosage with the right patient.

19. CIRCLE THE ONE BEST ANSWER.
A PERSON WITH HIGH BLOOD PRESSURE SHOULD:

A. Limit the amount of saturated fat, eggs, dairy products, salt, and red meat that he eats.

B. Limit the amount of eggs, fruits and vegetables, saturated fat, salt, and fish that he eats.

C. Not need to restrict his diet as long as he is not overweight.

D. Limit the amount of chicken, fish, eggs, dairy products, fruit, and salt that he eats.

E. Limit the amount of red meat, vegetables, saturated fat, and fish in his diet.

APPENDIX F

BRNICKY'S BLOOD PRESSURE TEST

Answer Sheet

1.-3. Information data

4. D

5. C

6. A., D., E., G., J., M.

7. B., D., F., I.

8. B

9. D

10. B

11. A

12. C

13. E

14. C

15. D

16. B

17. D

18. C

19. A

APPENDIX G

Tabulation of Raw Data*

Subject	Pretest	Posttest	Difference
1	25	26	+1
2	12	15	+3
3	15	28	+13
4	29	32	+3
5	24	33	+9
6	20	30	+10
7	22	26	+4
8	26	29	+3
9	27	33	+6
10	16	22	+6
11	23	29	+6
12	35	33	-2
13	32	33	+1
14	34	31	-3
15	15	13	-2
16	15	15	0
17	25	26	+1
18	16	15	-1
19	18	17	-1
20	11	13	+2
21	23	29	+6
22	21	23	+2
23	21	29	+8
24	24	28	+4
25	20	29	+9
26	24	29	+5
27	28	28	0
28	19	20	+1
29	19	25	+6
30	22	22	0
31	24	30	+6
32	23	24	+1
33	28	30	+2
34	22	24	+2
35	28	31	+3
36	31	27	-4
37	28	25	-3
38	23	25	+2
39	32	34	+2

*Number correct out of 36 possible test items.

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